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ſlands of *America*. When they eat, they ſit upon their hind legs like a ſquirrel, and hold their food, which is roots, berries, and cedar nuts, with their fore feet. They are pretty to look at, and whiſtle ſurpriſingly loud. No body thinks 1his while to hunt ermines *, weaſels †, or common marmottas ‡, unleſs by chance they meet with them; ſo that one cannot reckon ermines amongſt the furrs of *Kamtſchatka*. But there is 825 a creature of the weaſel kind, called the glutton ‖, whoſe furr 737 is ſo greatly eſteemed above all others, that when they would 301 deſcribe a man moſt richly attired, they ſay that he is cloathed 291 with the furr of the glutton. The women of *Kamtſchatka* dreſs their hair with the white paws of this animal, and reckon them a very great ornament. However, the *Kamtſchadales* kill ſo few of them, that they not only have not enough for exportation, but even import ſome from *Jakutſki* at a very great price. They put the greater value upon the furr of the glutton 825 the whiter and yellower it is, although every where elſe this ſort is 435 deſpiſed: nay, they eſteem it ſo much, that they ſay the heavenly beings wear no other garments than of this furr; nor can they make their wives or miſtreſſes a greater preſent than of one of theſe ſkins, which was formerly ſold for thirty, and even ſixty rubles; and for the two paws which the women wear in their hair, they ſometimes give one, and ſometimes two ſea beavers. The greateſt number of theſe gluttons is found near 136 *Karaga*, *Andirſka*, and *Kolima*. They have a ſurpriſing dexte-

* Ermineum majus. GMEL.
† Ermineum minor. Ejuſdem.
‡ Marmotta vulgaris. Ejuſdem.
‖ Muſtella ruſo-fuſca, medio dorſo nigro. LINN.

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exquiſite pain that the bear can make no further reſiſtance, and allows the hunter to lead him wherever he pleaſes, or ſtab him with his knife, without any danger.

The *Kamtſchadales*, however, look upon it as an affair of ſuch conſequence to kill a bear, that whoever has this honour, is obliged to feaſt all his neighbours; at which entertainment the bear's fleſh is the principal diſh; and, as a trophy, the bones of the head and thighs are hung round about their huts.

Of the bears' ſkins they make their beds and coverings, caps, gloves, and collars for their dogs. The fleſh and fat are their moſt delicate food; and the fat, when melted, is thin, and might be very well uſed with ſallad. With the guts they cover their faces in ſummer to keep off the ſun: ſometimes they uſe their ſkins as ſhoe-ſoles, to prevent them from ſliding upon the ice; and with their ſhoulder-blade bones, made ſharp, they cut graſs.

From the month of *June* to the end of harveſt the bears are very fat; but in the ſpring they are lean and dry. In the ſtomachs of thoſe killed in the ſpring nothing is found but a frothy ſlime: whence the inhabitants maintain the general opinion, that the bear has no food throughout the whole winter, but ſupports himſelf by ſucking his paws.

Although, as has been related above, wolves abound in *Kamtſchatka*, and their furrs are in great eſteem for cloaths, yet few are caught there. They differ in nothing from the wolves that are found in other places. By their cunning and fierceneſs they do more hurt to the inhabitants than their furrs bring profit; for they kill not only the wild deer, but even herds of the tame, notwithſtanding the latter have always a watch. Their favourite morſels ſeem to be the tongues of the deer, or even of the whales that are thrown upon the ſhore: they ſometimes ſteal the hares and foxes out of the traps and ſnares. White

wolves

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numbers. The tegulchitch, or firſt kind, have neſts very roomy, neat, and ſpread with graſs, divided into different apartments; in ſome of which they lay up the ſaranne quite clean, in others rough; in others, again, ſeveral ſorts of roots, which they gather in ſummer with great labour, and lay up againſt winter. In dry ſunny days they drag theſe out of their neſts, and dry them. During the ſummer they live upon berries, and what elſe they can find proper for their food; never touching their winter proviſion ſo long as they can find any food in the fields. Among the ſeveral things found in their neſts, I obſerved the ſaranne, the anacampſerus, biſtort, goats-beard, burnet, and cedar nuts.

Theſe rats change their habitations like the wandering tartars, and ſometimes for a certain number of years they all leave *Kamtſchatka*, and go to ſome other place. This retirement is very alarming to the *Kamtſchadales*, who think it forebodes a rainy ſeaſon and a bad year for the chace: but when theſe creatures return, they confidently expect a fine one and good hunting; ſo that, as ſoon as they begin to re-appear, expreſſes are ſent to all parts to carry the good news. They always take their departure in the ſpring, firſt gathering together in vaſt numbers. They direct their courſe due weſt, croſſing rivers, lakes, and even arms of the ſea; and when, after long ſwimming, they reach the ſhore, they lie upon the banks, as if they were dead, 'till at length they recover their ſtrength, and then ſet out again upon their march. Their greateſt danger in the water is leſt ſome ravenous fiſh ſhould ſwallow them up: but upon the land they have nothing to fear; and the *Kamtſchadales*, who are ſo greatly intereſted in their preſervation, when they find them weak upon the banks of the rivers or lakes, they give them any aſſiſtance in their power. From the river *Pengin* they go ſouthward, and about the middle of *July* they generally reach *Ochotſka* and *Judoma*. Sometimes their troop is ſo numerous

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136 merous that travellers muſt wait two hours before they paſs. They return commonly to *Kamtſchatka* about the month of *October*. It is ſurpriſing that ſuch ſmall animals, in one ſummer, can paſs over ſuch an immenſe tract of land; and one cannot but admire the order and regularity which they obſerve in their march, as well as the foreknowledge they have of the change of weather.

225 Some of the inhabitants aſſured me, that when they go out of their neſts they cover their proviſions with poiſonous herbs, to deſtroy other rats that may come to rob their ſtore; and that, if all their winter proviſion is taken away, and nothing left that they can eat, in the ſtead of their own ſtores, they ſtrangle themſelves for vexation, ſqueezing their necks between the forked branches of ſhrubs: for which reaſon the *Kamtſchadales* never take away all their ſtore, and even pay for what they take by putting in either dried caviar, or ſomething that will ſerve the poor creatures for ſuſtenance. Although all theſe circumſtances are related by the moſt ſerious of the *Kamtſchadales*, yet we muſt not implicitly rely on their authority, before the facts are better enquired into.

231 The dogs of *Kamtſchatka* are extreamly like the common village dogs, and are white, black, ſpotted white and black, or grey like the wolves; brown or other colours being very rare. They are eſteemed ſwifter and longer-lived than any other dogs; and this may be attributed to their light ſimple food, which is fiſh. In the ſpring, every one lets his dogs run at liberty, without taking any care about them; for they can be uſed for travelling only while the ſnow is on the ground. They then feed upon what they can get in the fields, where they dig for the mice; and in the rivers they, as well as the bears, catch fiſh. In the month of *October* the *Kamtſchadales* call them home, and tie them up near their huts, 'till they loſe a good deal of their fat, that they may be lighter for the road, and then one hears

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in the greateſt ſtorm, when a man cannot ſee the path, nor even keep his eyes open, they very ſeldom miſs their way; and if they ſhould, they go from one ſide to the other, 'till by the ſmell they find it again: and when it is abſolutely impoſſible to travel at all, which often happens, then the dogs lying round their maſter defend him from all danger. They alſo give certain ſigns of an approaching ſtorm; for, when they ſtop, if they ſcrape the ſnow with their feet, it is adviſeable, without loſs of time, to look out for ſome village, or other place of ſafety. And, it is ſaid, the dogs here ſerve inſtead of ſheep, becauſe their ſkins are uſed for cloaths; particularly thoſe of the white dogs, with which all their different ſorts of garments are trimed.

The number of dogs they put to a ſledge, how they break them, and what weight they carry, ſhall be mentioned hereafter, when we come to deſcribe the manner of travelling with dogs.

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Thoſe which are bred up to hunt the deer and wild rams, ſables, foxes, and the like, are ſometimes fed with jackdaws, which, it is obſerved, make their ſcent the ſtronger for finding out birds and wild beaſts.

Beſides dogs, they have here cows and horſes, but no other domeſtic animals. There is no fit place to feed ſheep on, either upon the Eaſtern Ocean, or the ſea of *Pengine*; for the wet weather and the ſtrong juicy graſs would ſoon rot and deſtroy them. Near the upper *Oſtrog*, and upon the river *Koſireff*, ſheep thrive; the weather being fairer, and graſs leſs watry; but then there muſt be a good proviſion of hay made for them againſt the winter, the ſnow being too deep for them to find their food in the fields; for which reaſon, from the mouth of the river *Ilga* to *Jakutſki*, very few ſheep are kept.

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237 262 251 thoſe made of timber, in that they are much lighter and go ſwifter. Of the ſeals' fat both *Ruſſians* and *Kamtſchadales* make candles; and beſides the natives eſteem it ſuch a delicacy that they can have no feaſt without it. The fleſh they boil or dry in the ſun; but if there are great quantities, they ſmoke or bake it in the following manner: They dig a large pit in proportion to the quantity of fleſh or fat, and pave the bottom with ſtones. Then they fill it with wood and light it below, continuing to add fuel until it be as hot as any oven. After which they take out all the aſhes, then lay at the bottom a layer of green poplar wood, upon this another of ſeals' fleſh or fat, each ſeparately; and thus alternately wood and fleſh until the pit be quite full. They then cover it with graſs and earth, to keep in the heat; and after ſome hours they uncover it, take out the fat and fleſh, and lay it up for the winter. Both fleſh and fat thus prepared is much more delicate than what is boiled; beſides, it keeps without ſpoiling for a whole year.

825 796 782 When they have picked all the fleſh from the heads of the ſeals they ſhew them all the reſpect that they would to a particular friend that viſits them. I ſaw this ceremony in the year 1740 at the little fort of *Krodakigbe*, which ſtands upon a river of the ſame name that falls into the Eaſtern Ocean. It was performed in the following manner: They brought in the ſkull or head of a ſeal, bound round with the ſweet graſs, and placed it upon the floor. Then a *Kamtſchadale* entered with a bag filled with the ſweet herbs and others, particularly a good deal of birch bark, and placed it near the head; upon which two other *Kamtſchadales* rolled in a great ſtone, and ſet it oppoſite to the entry of the hut, about which they laid ſeveral ſtones; and two others tore the ſweet herb, and made it into ſmall bunches. The great ſtone was to ſignify the ſea, the ſmaller the waves, and the bunches of the ſweet herb the ſeals. This being done, they took three diſhes of caviar mixed with kipre, hurtleberries, and ſeals' fat

fat. This they ſqueezed into balls, in the middle of which they preſſed the ſweet herbs which were made to repreſent the ſeals: out of the birch bark they made little boats, which they filled with theſe balls made as above, and covered them with herbs. 825 796 782

After ſome time they took theſe boats and balls and toſſed them to and fro over the ſtones as if over waves, that the other ſeals might ſee with what reſpect the *Kamtſchadales* treated their friends, and conſequently might the more willingly fall into their hands. After this they placed the ſeals made of the ſweet herbs near to the great ſtone, or ſea, and all went out of the hut; but one old man, after he had ſet upon the threſhold a ſmall diſh with their broth which he had carried behind them, entered into it again, all the aſſiſtants crying aloud four times the word *Lignouleghe*. They could not tell what this term meant; nor could they give any other reaſon for their ſo crying out, but that their fathers did ſo. After this they again rolled the birch boats upon the ſtones; and going again out of the hut cried, as before, *Kouneouſhite aloulaighe*; that is, May the wind blow towards the ſhore. For while this wind blows a great deal of ice is driven towards the land, which is favourable for their killing the ſea animals. Returning into their huts, they rolled their birch boats a third time over the ſtones. They then put the ſkulls of the ſeals into a bag, and every fiſher preſent put in alſo a little of the ſweet graſs, with his name and ſome particular ſentence; that the ſeals might know how they had entertained them, and what valuable preſents they had made them.

Having, as they thought, by their entertainment and preſents, ſhewn all reſpects to their gueſts, they brought them out to the ſtair-head, where an old man put ſtill ſome more of their gruel into the bag, deſiring them to carry that to their friends that had been drowned at ſea. Then two *Kamtſchadales* who had been principally employed in this entertainment, took the bowls that were

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were filled with gruel and the ſeals made of graſs, and gave one to each fiſher. They then went all out of the hut, and cried *Uenic*; a word they uſe in calling to one another when they go to kill the ſeals or other ſea animals. Then taking out the ſeals made of graſs they threw them into the fire, praying them to make them frequent viſits; after which, returning into the hut, they put out the fire, and eat the gruel that was in the bowls.

The ſea horſe is but ſeldom ſeen about *Kamtſchatka*, and then only in the moſt northernly places. The moſt are caught near the cape of *Tchukotſkoi*, being both larger and more numerous there than any where elſe. Their teeth are what we commonly call fiſh-bone, the price of which depends upon their largeneſs or weight: the deareſt are thoſe that are about twenty pounds; but theſe are ſeldom met with, or even ſuch as weigh ten or twelve pounds, the common weight being five or ſix pounds.

The ſea lion * and cat, in their uſual ſtructure, differ very little from the ſea horſe and ſea calf, and are therefore to be reckoned of the ſame kind.

Some call the ſea lions ſea horſes, becauſe they have manes. In their ſhape they are like the ſea calf; and their necks are bare, excepting a ſmall mane of hard curled hairs: the reſt of their body is covered with a cheſnut-coloured hair. They have a middle-ſized head, ſhort ears, a ſnout ſhort and drawn up like a pug dog's, great teeth, and webbed feet. They are found moſt frequently about rocky ſhores or rocks in the ſea, upon which they climb very high, in great numbers. They roar in a ſtrange, frightful manner, much louder than the ſea calf; and they are thus far of uſe to people at ſea, that in foggy weather, by their roaring, they warn them of rocks or iſlands being near, as few rocks or iſlands in this part of the world are without theſe animals.

* Leo marinus. STELLER.

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are catched about the cape of *Kronotzkoy*, as between this and the cape *Sbupinſkoy* the ſea is generally calm, and affords them properer places to retire to. Almoſt all the females that are caught in the ſpring are pregnant; and ſuch as are near their time of bringing forth their young are immediately opened, and the young taken out, and ſkinned. None of them are to be ſeen from the beginning of *June* to the end of *Auguſt*, when they return from the ſouth with their young. The natives were formerly at a loſs to conceive where ſuch great herds of pregnant fat animals retired in the ſpring, and why they returned ſo weak and lean in the ſummer: they conjectured, that as they thus regularly ſwam from the ſouth in the ſpring, and returned in the ſummer, their being ſo lean was owing to their fatigue.

The females bring forth their young there, and being at reſt recover their former ſtrength; they nurſe their young ones three months, 'till they are able to return with them to their former habitations in the ſummer. The females ſuckle their young with two teats, which are placed between their hinder paws; they have ſeldom more than one; and when they bring forth they gnaw off the navel ſtring like a dog, and greedily eat the after-birth. The young ſee when they are whelped, their eyes being as large as the eyes of an ox; and have thirty-two teeth, not reckoning their tuſks, two of which are on each ſide, and begin to appear the fourth day after their birth. Their colour at the firſt is a dark blue; but in four or five days grey hairs begin to appear between their hinder legs, and at the end of one month their belly is black and grey. The male is born larger and blacker, and even continues blacker than the female, which turns almoſt of a blue colour as ſhe grows up, having only grey ſpots between her fore legs. The male and female differ ſo much in the form and ſtrength of their bodies, that one who does not carefully examine them would take them for different ſpecies of animals.

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and cleaning the guts, they fill them with the oil which runs in cutting the fiſh, or which they melt from the blubber, having no other veſſels to keep it in.

The *Tchukotſkoi* kill whales with a harpoon in the ſame manner as the *Europeans* do, and they catch ſo many that they never eat thoſe whales that are thrown dead on ſhore, as ſome of the neighbouring people do, but only extract their fat for burning. Although the *Tchukotſkoi* have large herds of deer, which might be ſufficient for their ſuſtenance, yet they are the greateſt whale fiſhers of any people in this part of the globe, and look upon the fat of the whales as the greateſt delicacy; beſides, having great ſcarcity of wood, they uſe it for burning. They make themſelves ſhirts of the inteſtines of the whales, like the *Americans*; and uſe them for veſſels, like the *Olutores*.

The kaſatki, (falſely called the ſword-fiſh) which are numerous in theſe ſeas, are very uſeful to the inhabitants, for theſe fiſh frequently either kill or drive the whales on ſhore. *Steller* had an opportunity of ſeeing an engagement between the kaſatki and whale, both at ſea and upon *Bering*'s iſland. When the kaſatki attacks the whale he makes him roar ſo that he may be heard ſome miles. If the whale makes off, the kaſatki follows him at ſome diſtance 'till great numbers of them gather together, and make a general attack. It is never obſerved that ſuch whales as are thrown on ſhore have any part eaten out of their bodies; ſo that this war between the whales and the kaſatki muſt proceed only from a natural enmity. The fiſhers are ſo much afraid of theſe animals that they not only never throw any darts at them, but if poſſible avoid going near them; nay, they even make offerings to them, begging that they will not hurt them: for if irritated they ſometimes overturn their boats.

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225 Mr. *Steller* writes that he was certainly informed, that in the bodies of whales thrown upon the coaſt of *Kamtſchatka*, there have been found harpoons marked with *Latin* letters; but by what means he could be certain of this, I know not; for the natives have no idea of letters; and before our arrival, none of our Coſſacks ever ſaw a *Latin* letter.

237 262 Many are the advantages which the *Kamtſchadales* derive from this plenty of whales: of the ſkin they make ſhoe ſoles and ſtraps; they eat the fleſh, as likewiſe the fat which they alſo burn; they ſew their boats with the beard, of which alſo they make nets for foxes and fiſh; out of the lower jaw they form a ſort of ſledge, and make knife-handles, rings, and ſeveral ſmall things of it beſides; the inteſtines ſerve for barrels, and other veſſels; out of the nerves and blood-veſſels they make ropes; and of the vertebræ, ſeats. The moſt delicate pieces of the whale are the tongue and fins. I thought that the whale's fat with grout was not unpleaſant, but I can't ſay, that I was then a proper judge, for hunger makes every thing agreeable.

226 736 825 They never go a fiſhing for the kaſatki, but if this fiſh is thrown on ſhore they uſe its fat like that of the whale. Mr. *Steller* ſays, that, in the year 1742, eight of them were thrown on ſhore at once, near the *Lopatka*; but the diſtance and the bad weather prevented his going to examine them. He was told, that the largeſt never exceed four fathoms in length; that they have ſmall eyes, a wide mouth, and great ſharp teeth, with which they wound the whale; but that they tear up the belly of the whale with a ſharp fin which is upon their backs, is a falſe report; for though this fin is about five feet long, very ſharp, and in the ſea ſtands quite upright, yet it is altogether ſoft, and conſiſts only of fat: nay the animal itſelf is almoſt all fat having hardly any muſcular fleſh.

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136 brings forth its young alive, like the whale; and when its mouth is ſhut has ſome reſemblance of a ſturgeon, but its teeth are very different, being large and terrible. The *Kamtſchadales* eat the fleſh of this fiſh, and though it appears to be tough and ſtrong, they ſay it is exceedingly well taſted. The guts, and particularly the bladder, are in high eſteem; ſo that when they catch this fiſh, they never call it by its name, for fear, as they imagine, they ſhould provoke it to burſt its bladder, and render it uſeleſs to them. The teeth are ſold under the name of ſerpents' teeth.

136 Several fiſhes which are common to other ſeas are found here; as pike, eels, lampreys, cod, and very fine ſoals in great plenty; but the inhabitants make no account of theſe fiſh, and never uſe them unleſs in great neceſſity, or to feed their dogs. Mr. *Steller* obſerved four different ſpecies of flat fiſh.

There is a fiſh called * vahnae, which is a ſpecies of the cod; is round and thick, with three fins upon its back; and when taken out of the water is of a copper-colour, but preſently changes to yellow: its fleſh is white, but ſoft, and of a diſagreeable taſte; however the inhabitants eat more of it, than of other fiſh which are much better taſted; the reaſon indeed is, that they catch this fiſh in the beginning of the ſpring, when they can catch no other; a great deal of which they dry in the ſun uncleaned, deſigning it as proviſion for their dogs.

136 I ſaw the fiſh which they call † terpuk, but it being dry, I could not obſerve thoſe fine colours which Mr. *Steller* deſcribes. By his deſcription its back is blackiſh, its ſides are reddiſh, and chequered with fine ſilver-coloured ſpots; ſome of which are ſquare, and others circular: in its ſhape it reſembles the perch.

1. [Mokoe or Canis Carcharius Autorum]

* Onos vel Aſinus Antiquorum.

† Dodecogrammos Stelleri.

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The different ſpecies of thoſe fiſhes which are here called red fiſh ſhall be mentioned in giving an account of the time when they come out of the ſea into the rivers; it being remarked that they always obſerve the ſame order, the ſame ſpecies which comes out firſt one year continuing to do ſo the following. This the *Kamtſchadales* find to be ſo certain, that they call their months by the name of the fiſh which are then caught.

The largeſt and beſt of theſe fiſh, and which come firſt out of the ſea, are called chavitſi. It reſembles the common ſalmon, though it is a great deal broader; is about three feet and a half long, and weighs a pood and a half; its breadth is about the fourth part of its length; its noſe is ſharp, the upper jaw being longer than the lower; its tail is equal; the back is bluiſh, with ſome ſmall black ſpots; its ſides are of a ſilver colour, and its belly white; its gills are long and ſmall; and its fleſh is red both raw and boiled.

They ſwim up the rivers with ſuch force that the water ſeems to riſe like a wall before them; which the *Kamtſchadales* obſerving get into their boats, and throw out their nets. This fiſh does not come up in ſuch large ſhoals as the others, nor is ſuch plenty caught as to make *eukol* of it, except upon the river *Kamtſchatka*; and even there it is ſo rare that it is only uſed on feaſts or holydays, and after all it is ſo fat that it preſently turns bitter. The Coſſacks, for the moſt part, ſalt it, particularly the belly, back, and head. The ribs are dry and hard, but the belly is truly a delicate food, at leaſt no fiſh there comes up to it; and what they dry in the ſun, if not better than the *Jakutſki* ſturgeon, is at leaſt not worſe.

Of all the rivers that run into the Eaſtern Ocean this fiſh is only found in the river *Kamtſchatka* and the bay of *Awatſcha*; and of thoſe that fall into the *Penſchinſka* ſea, only in the *Bolſcheretſkoi* river: beſides, Mr. *Steller* ſays, that none is to be found further north than 54°, and it is certain that it is not

The third kind of this fiſh is called keta or kacko; which is somewhat larger than the narka. The fleſh is white; the head flattiſh and longiſh; the ſnout is bent; the teeth, when it has been ſome time in the river, are like a dog's; its tongue is ſharp; its tail a little forked; its back black and green; its ſides and belly like other fiſh; and its ſkin is without ſpots. The *eukol* that is made of this fiſh they call their houſehold bread, being much more plenty than any other; as the ſeaſon of the fiſhery, which begins in *July* and ends about the middle of *October*, is drier and more proper for preparing it. This fiſh is caught in all the rivers both in the *Penſchinſka* and Eaſtern ſeas.

The gorbuſhe, or crook back, follows or ſometimes accompanies the keta. This fiſh is more plentiful than any other whatever; it is about eighteen inches long, and flattiſh; its fleſh is white; its head ſmall; its ſnout ſharp, and conſiderably crooked; its teeth ſmall; its back bluiſh, with round black ſpots; its ſides and belly like the other ſorts; and the tail forked. Though this fiſh is not bad, yet the inhabitants have ſuch plenty of what they eſteem better, that they uſe this only for their dogs.

The laſt of theſe kinds that come on ſhore is called white fiſh. This fiſh both in bulk and appearance is very like the keta; they differ in this indeed, that the keta has no ſpots, and the white fiſh has long black ſpots upon its back. It excels in taſte all the fiſhes that have white fleſh; and it agrees with the narka in this, that it moſt frequently haunts thoſe rivers that run out of the lakes, and is caught there in the ſame manner. The young ones, which accompany the old to take care of the roes and convoy the young fry down, are eſteemed by the inhabitants to be a different ſpecies, and are called milktchuch. So ſoon as the old ones have ſpawned, they take all care to provide for their own ſafety, retiring immediately to deep places where there are warm ſprings; and they are chiefly found in the ſprings near the *Bolſcheretſkoi* river

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

CLASS I. *Of the* SEA FOWLS.

The ſea fowls are found in greater plenty about the coaſt of the Eaſtern Ocean, than that of the *Penſchinſka* ſea; for the coaſt of the Eaſtern Ocean is more hilly and convenient for breeding. 136

The ipatka * is well known to all writers of natural hiſtory by the name of anas arctica, commonly called in *England* puffins. It is found upon the coaſt of *Kamtſchatka*, and the *Kurilſki* iſlands, and even upon the *Penſchinſka* bay, almoſt as far as *Ochotſka*. It is about the bigneſs of, or rather ſmaller than, a common duck; its head and neck are of a bluiſh black; the back is black; the belly and all below white; its bill red, and broad towards the root, but ſomewhat narrower towards the point; upon each ſide are three furrows; its legs are red, its feet webbed, and its nails ſmall, crooked, and black; its fleſh is hard; its eggs are like hen's eggs; it builds its neſt with graſs on the cliffs of the rocks. The *Kamtſchadales* and *Kuriles* wear the bills of theſe birds about their necks faſtened to ſtraps; and, according to their ſuperſtition, their ſhamans, or prieſts, muſt put them on with proper ceremony, to procure them good fortune. 277 825

Another ſpecies of theſe birds is called meuchagatka †, and in *Ochotſka*, igilma: this only differs from the former in being all black, and having two yellowiſh white tufts upon its head, which lie all along from its ears to its neck like locks of hair. To the beſt of my remembrance this bird has never yet been deſcribed. Mr. *Steller* and I ſent ſome of theſe ſpecies of birds to the Imperial Muſeum. Among thoſe ſent by Mr. *Steller* there was a third kind which is found upon the iſland *Bondena*, in *Angermannia*, and upon the *Caroline* iſlands; and is ſome- 136

* Alca roſtri ſulcis quatuor, oculorum regione temporibuſque albis. LINN. F. ſuec. v. 42.

† Alca monochros ſulcis tribus, cerro duplici utrinque dependente. Anas arctica cirrata. STELL.

I: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

252 (262 such a manner that, as victuals are there, it is not bad; they roaſt it in holes dug in the earth, without plucking off the feathers, or taking out the entrails, and when roaſted, they ſkin and eat it.

825 The natives ſay that theſe birds[1] have no tongue; but this is not true, for they cry in the mornings and evenings: Mr. *Steller* compares their noiſe to the ſound of a trumpet.

136 223 CLASS II. *Of thoſe Birds which haunt for the moſt part about the freſh Water.*

The firſt of this claſs is the ſwan, which is ſo common in *Kamtſchatka*, both in ſummer and winter, that the pooreſt perſon can have no entertainment without a ſwan. When they are moulting they hunt them with dogs, and kill them with clubs: in the winter they catch them in thoſe rivers that do not freeze.

136 Here are ſeven kinds of geeſe, which are diſtinguiſhed thus: large grey geeſe, gumenniki, ſhort necks, grey and ſpeckled, white necks, ſmall white geeſe, and foreign. They all come here in the month of *May*, and depart in the month of *October*, as Mr: *Steller* ſays; who likewiſe writes, that they come from *America*, and that he himſelf ſaw them paſs *Bering*'s iſland in great flocks, flying eaſt in the harveſt and weſt in the ſpring. In *Kamtſchatka* are principally found the large grey geeſe, the gumenniki, and the grey and ſpeckled; the ſmall white gooſe is hardly ever found here. Again, in the North Sea, about *Kolimi* and other rivers, are vaſt numbers of them; and the beſt down 223 is brought to *Jakutſki* from theſe places. They catch them at the time they caſt their feathers, in the following manner:— They build huts with two doors, near thoſe places where they moſt commonly ſit at night. The fowler putting a white ſhirt on, above his cloaths, ſteals as near the flock as he can; and ſhewing himſelf

1 [Write Corvus aquaticus maximus Cristatus ſeriophtalmiis Cinnaberinis, postea candidis. Stell.]

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

being ſomewhat yellowiſh at the end, with a ſmall white ſtripe; the head is black, and upon its temples are ſmall white ſpots: it weighs about a pound and a half. 136

In the harveſt the females are found in the rivers, but none of the drakes: they are very ſtupid and eaſily caught where the waters are clear and ſhallow, for they do not fly away at the ſight of a man, but only dive, and therefore may be eaſily killed with poles, as I myſelf have frequently done. Mr. *Steller* ſaw ſeveral of this kind of ducks in the *American* iſlands.

They catch the ducks with nets in the following manner: in a wood that happens to ſtand between two lakes, or between a lake and a river, they cut a ſtrait paſſage, through which the ducks fly during the ſummer; here in the harveſt, when the fiſhery is over, the natives faſten to long poles ſeveral nets, which in the evenings they raiſe as high as the ducks are uſed to mount: round the nets a ſtring is drawn, by which they can reef them together, as ſoon as they find the ducks entangled; but they ſometimes fly with ſuch force and in ſuch numbers, that they break through. They likewiſe catch them in ſmall rivers with nets ſtretched acroſs the ſtream: but this is a method not peculiar to *Kamtſchatka*. 223

To this claſs belongs likewiſe the gagari, or columbus, of which there are four ſpecies *, three of which are large, and the other ſmall: the firſt of the largeſt has a tail; the ſecond a clay coloured ſpot upon its neck, a little above the crop: the third is called by *Wormius*, the northern lumme; and *Marſilius* calls the fourth the little lumme. The natives pretend to foretel the change of weather by their crying and flying; for they think that the wind muſt always blow from that point towards which they fly: however they are frequently deceived in their judgment. 136 225 787

* 1. Colymbus maximus. Gesn. Stell. 2. Colymbus arcticus lumme dictus. Worm. 3. Colymbus macula ſub mente caſtanea. Stell. 4. Colymbus ſive pedicipes cinereus. *Ejuſdem.*

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

Here are alſo found great numbers of ſmall birds, ſuch as plovers and ſnipes of different ſorts, which they catch with ſnares and gins.

CLASS III. *Of the* LAND FOWLS.

The chief of theſe birds is the eagle, of which there are four ſpecies in *Kamtſchatka*: the firſt is the black eagle, with a white head, tail, and feet. Theſe are rare upon the main land of *Kamtſchatka*; but, according to Mr. *Steller*, they are found in plenty on the iſlands between it and *America*. They make their neſts (which are near ſix feet in diameter, and about a foot thick) of ſhrubs upon high cliffs, and in the beginning of *July*, lay two eggs. The young ones are as white as ſnow: theſe he ſaw upon *Bering*'s iſland, but not without danger from the old ones, which, even when he did not the leaſt hurt to their young, attacked him with ſuch violence that he could ſcarce defend himſelf from them with his ſtick. The ſecond is the white eagle, which the *Tunguſi* call elo: this I ſaw near *Nertchinſki*; however it is not white but grey. Mr. *Steller* ſays, that this is bred upon the river *Hariouſkovoi* which runs into the *Penſchinſka* ſea. The third is the black and white ſpotted eagle. The fourth, the dark clay-coloured eagle, the extremities of whoſe wings and tail are ſpotted: theſe two laſt mentioned abound moſt here. The natives eat the eagles, and eſteem them agreeable food.

Here are likewiſe ſeveral other birds of prey, ſuch as vultures, hawks of various kinds, owls, and above all, ravens, crows, and magpies, which are the ſame with thoſe in *Europe*. Beſides, here are great numbers of cuckoos, water ſparrows, growſe, partridges, thruſhes, larks, ſwallows, and ſeveral other ſmall birds, whoſe appearance in the ſpring the natives expect with great impatience, and thence begin their new year.

In the concluſion of this chapter we have added a liſt of ſome plants, beaſts, fiſhes, and birds, with their names in the *Engliſh*, *Ruſſian*, *Kamtſchatka*, *Koratſki*, and *Kuriliſki* languages.

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

CHAP. XI.

Of INSECTS.

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AS *Kamtſchatka* abounds with lakes and marſhes, the ſwarms of inſects in the ſummer time would make life intolerable there, if it were not for the frequent winds and rains. The maggots are ſo numerous as to occaſion great deſtruction to their proviſions, particularly in the time of preparing their fiſh, which are ſometimes entirely deſtroyed by them. In the months of *June*, *July*, and *Auguſt*, when the weather happens to be fine, the muſketoes and ſmall gnats are very troubleſome; however the inhabitants do not ſuffer much from them, as they are at that time, upon account of the fiſhery, out at ſea, where by reaſon of the cold and wind few of theſe inſects are to be met with.

136 It is but lately that bugs appeared upon the river *Awatſcha*, which were brought thither in cheſts and cloaths: they are not yet known in *Kamtſchatka*. Upon account of the wet weather and ſtorms few of the butterfly kind are found here, except in ſome woods near the upper *Kamtſchatkoi* fort, where they abound. It has been obſerved that numbers of theſe inſects have ſettled upon veſſels which were 30 verſts from the ſhore: it appears ſomewhat extraordinary that they ſhould be able to fly to ſuch a diſtance without reſting; moſt likely the ſtorms ſo frequent here might drive them out to ſea, and by their violence ſupport them.

136 There are few ſpiders in *Kamtſchatka*; ſo that the women
825 who are fond of having children, and who have a notion that
842 theſe inſects ſwallowed render them fruitful and their labour eaſy, have great trouble to find them. Nothing plagues the natives

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

natives in their huts ſo much as the lice and fleas; the women ſuffer moſt from the former, by wearing very long, and ſometimes falſe hair. Mr. *Steller* was told, that near the ſea is found an inſect that reſembles a louſe, which working itſelf through the ſkin into the fleſh is never to be cured, unleſs by cutting the creature intirely out; and that the fiſhers are very much afraid of them.

It is remarkable that in *Kamtſchatka* there are neither frogs, toads, nor ſerpents. Lizards, indeed, are numerous enough, which the natives look upon as ſpies ſent from the infernal powers for information, and to foretel their death: therefore they are very careful whenever they find them to cut them into ſmall pieces, that they may never carry back news to the power which ſent them; and if it happens that the animal eſcapes alive, it throws them into the greateſt grief and deſpair, as they expect every hour to die, which indeed ſometimes happens from their own fear and deſpondency, and then ſerves to confirm the ſuperſtition to others.

CHAP. XII.

Of the TIDES *in the* Penſchinſka *Sea and Eaſtern Ocean.*

IT might perhaps appear ſufficient to ſay, that the tides are agreeable in theſe ſeas to what are obſerved in others; but as I made ſome obſervations which appeared to me new, I think it proper to communicate them.

It is a known rule in general, that the ebb and flood happen twice in the natural day, and that the tides are higheſt about the new and full moon: however, I do not recollect that it has been obſerved that the ebbs and floods are not equal here, or that they do

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

778 776 Beſides theſe pillars ſeveral other places are reckoned ſacred, ſuch as burning and ſmoaking mountains, hot ſprings, and ſome particular woods, which they imagine are inhabited by devils, whom they fear and reverence more than their gods.

771 825 All their opinions concerning both gods and devils are certainly very ſimple and ridiculous; however, it ſhews that they endeavour to give an account for the exiſtence of every thing as far as they are able; and ſome of them try to penetrate into the thoughts of the very birds and fiſhes; but when once any opinion is eſtabliſhed, they never trouble themſelves with enquiring whether the thing be poſſible or not. Hence their religion entirely depends upon ancient tradition, which they 777 believe without examination. They have no notion of a ſupreme Being that influences their happineſs or miſery, but hold that every man's good or bad fortune depends upon 775 himſelf. The world they believe is eternal, the ſoul immortal, and that it ſhall be again joined to the body, and live eternally ſubject to the ſame fatigues and troubles as in this preſent life, with this difference only, that they ſhall have greater plenty of all the neceſſaries of life: even the very ſmalleſt animals they imagine will riſe again, and dwell under the earth. They think 772 the earth is flat, and that under it there is a firmament like our's; and under that firmament another earth like our's, in which when we have ſummer they have winter, and when we 775 have winter they have ſummer. With regard to future rewards and puniſhments, they believe that in the other world the rich will be poor and the poor will be rich.

577 Their notions of vice and virtue are as extraordinary as thoſe they entertain of God. They believe every thing lawful that procures them the ſatisfaction of their wiſhes and paſſions, and think that only to be a ſin from which they apprehend danger or ruin; ſo that they neither reckon murder, ſelf-murder, adultery, oppreſſion, nor the like, any wickedneſs: on the contrary, they

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

they look upon it to be a mortal ſin to ſave any one that is drowning, becauſe, according to their notions, whoever ſaves him will be ſoon drowned himſelf. They reckon it likewiſe a ſin to bathe in, or to drink, hot water, or to go up to the burning mountains. They have beſides theſe innumerable abſurd cuſtoms, ſuch as ſcraping the ſnow from their feet with a knife, or whetting their hatchets upon the road. This may, however, be ſaid, that they are not the only people who have ridiculous ſuperſtitions.

Beſides the above-mentioned gods they pay a religious regard to ſeveral animals, from which they apprehend danger. They offer fire at the holes of the ſables and foxes; when fiſhing, they intreat the whales or ſea horſes not to overturn their boats; and in hunting, beſeech the bears and wolves not to hurt them. This was the ſtate of theſe people the firſt years of my being amongſt them; but now, by the care of the Empreſs *Elizabeth*, miſſionaries are appointed to inſtruct them in the Chriſtian faith. In 1741 a Clergyman was ſent by the ſynod with aſſiſtants and every thing neceſſary for building a church, and inſtructing this wild people; which has been attended with ſuch ſucceſs, that not only many of them are baptized, but ſchools are alſo erected in ſeveral places, to which the *Kamtſchadales* very readily ſend their children: ſo that in a few years we may hope to ſee the Chriſtian faith planted in all theſe northern countries.

CHAP.

T:Lesseps T-3 (1787-88)1790 Kamchadal

533 The words mean,

Daria *, Daria ſings and dances ſtill.

This air is repeated without ceaſing.

535 In their dances they are fond of imitat-
825 ing the different animals they purſue, ſuch as the partridge and others, but principally the bear. They repreſent its ſluggiſh and ſtupid gait, its different feelings and ſituations; as the young ones about their dam; the amourous ſports of the male with the female; and laſtly, its agitation when purſued. They muſt have a perfect knowledge of this animal, and have made it their particular ſtudy, for they repreſent all its motions as exactly, I believe, as it is poſſible. I aſked the Ruſſians, who were greater connoiſſeurs than myſelf, having been oftener preſent at the taking of theſe animals,

* Daria is a female Ruſſian name.

whether

7:Lesseps T-3 (1787-88)1790 Kamchadal

535 whether their pantomime ballets were well
825 executed; and they aſſured me that the dancers were the beſt in the country, and that the cries, gait, and various attitudes of the bear, were as accurate as life. Meanwhile, without offence to the amateurs, theſe dances are, in my opinion, not leſs fatiguing to the ſpectators than to the performers. It is a real pain to ſee them diſtort their hips, diſlocate every limb, and wear out their lungs; to expreſs the exceſs of pleaſure which they take in theſe ſtrange balls, which, I repeat it, reſemble the abſurd diverſions of ſavages: the Kamtſchadales may indeed, in many reſpects, be conſidered as of that rank.

224 Having given an account of the addreſs with which theſe people counterfeit the poſtures and motions of the bear, who may be called their dancing maſter, it may not be unpleaſing to relate in what manner they hunt

7:Lesseps T-3 (1787-88)1790 Kamchadal

224 more certainty. It is ſeldom that, with
411 the ſmalleſt ball, he does not ſtrike the bear either in the head, or near the ſhoulder, which is the tendereſt part. But he is obliged to charge again inſtantly, becauſe the bear, if the firſt ſhot has not diſabled him, runs* at the hunter, who has not always time for a ſecond ſhot. He has then recourſe to his lance, with which he quickly arms himſelf to contend with the beaſt, who
224 attacks him in his turn. His life is in dan-
825 ger† if he does not give the bear a mortal thruſt; and in ſuch combats, it may be ſup-

* It is common enough alſo for it to take to flight, notwithſtanding its wound, and conceal itſelf in thickets or ruſhes, where it is traced by means of its blood, and found either dead or expiring.

† I was aſſured that when a bear triumphs over his aggreſſor, he tears the ſkin from the ſkull, draws it over his face, and then leaves him; a mode of revenge which implies, according to the Kamtſchadales, that this animal cannot bear the human aſpect; and this ſtrange prejudice ſupports them in the opinion of their ſuperiority, and ſeems to inſpire them with additional courage.

poſed

7:Lesseps T-3 (1787-88)1790 Kamchadal

844 862 theſe occaſions they make uſe of their hair, I am told, to tie the umbilical cord, carry home their children themſelves, and immediately give them ſuck. They have no limited time for ſuckling their children, and I have ſeen inſtances of its continuing for four or five years. We may judge from this circumſtance of the ſtrong conſtitution of theſe women. It is obſerved, however, that Kamtſchadales of either ſex, do not live longer than Ruſſians.

278 825 I forgot to mention a remedy to which the inhabitants of this peninſula have voluntary recourſe in almoſt every diſeaſe: it is to a root called *bears root*, which they ſteep in brandy. The name ſufficiently indicates to whom they are indebted for its knowledge. Perceiving that the bear was fond of eating this herb, and of rolling himſelf upon it when wounded, they imagined it to poſſeſs ſome healing quality, and this

7:Lesseps T-3 (1787-88)1790 Kamchadal

278 this induced them to make uſe of it. This
825 animal thus gave them their firſt leſſon in botany and pharmacy. It is ſaid however, that the bear cures all his wounds with this root. If this be true, it is natural to ſuppoſe that human beings would find it very ſerviceable: but as I have never had occaſion to make the experiment, I can only ſpeak from report.

177 The Chriſtian religion was introduced
771 into this country by the Ruſſians; but the
793 inhabitants appear to know little more of it than the ceremony of baptiſm. They are ignorant of the very firſt principles of Chriſtianity. Slaves to their inclinations, they follow their impulſe whether good or bad. If they think of religion, it is merely from a motive of convenience or intereſt, or when particular circumſtances compel them to it. This proves how very defective their inſtruction is, and reflects in my opinion

22: Guillemard T,2 (1882) 1886 Kamchadal

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August; but each has its own time of arrival, which, from its constancy, appears to be more or less independent of seasonal influences. A few fish apparently remain at or about the river mouths during the summer, and eventually return to the sea, but these are so few as to be scarcely worthy of mention. The vast majority—practically all, in fact—ascend the streams to spawn, and having once done so, die. In the case of some species every fish appears to perish; in others, to which I shall refer, a few get back to the sea.

The kelts of these salmon exhibit, though in a far more intensified degree, the changes that are noticeable in our own salmon after spawning. The jaws are prolonged and hooked, and the teeth much developed. The back becomes somewhat humped—in one species enormously so—and the skin of that region so hypertrophied and spongy as to conceal the scales. Simultaneously the colour of the body surface changes, becoming livid or dusky, and blotched with red patches, or even entirely red. The flesh gets paler in colour and tasteless, and the whole aspect of the fish denotes its unfitness for food. As they ascend the river the salmon keep close together in large shoals, each fish keeping to the shoal of its own species and not mingling with others. Later in the year, after spawning-time, they of course become indiscriminately mixed.

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During our visit to, and journey through the country, we met with at least six different species of the Salmonidæ in abundance. That there were others I am quite sure, but in the following list I have limited myself to noticing those only about which we personally obtained information:—

1. *Oncorhynchus orientalis* (Pall.)—Known to the Kamschatkans as the Tchervitchi, this fish is the king of the Salmonidæ both as regards size and flavour. On first arrival the Tchervitchi is silvery, the back and upper surface dark, and marked with dark spots, which also extend on to the dorsal fin and tail. The fish may have a length of four feet or more, and are rather broad: their extreme

22: Guillemard T-2 (1882) 1886 Kamchadal

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weight was given by Afanasi as "over two poods," which would be 72 lbs. We did not see any fish of this size, but a salmon, most probably of this species, was caught by the *Dido's* men in 1855, the weight of which is given by Tronson as 76 lbs. There is no doubt that they commonly run to as much as fifty or sixty pounds. The Tchervitchi is proper to the Kamschatka and Okhotsk Seas, apparently not being found elsewhere. According to Steller, it only frequents the larger rivers, and does not exist to the north of the 56th parallel. He gives the date of its arrival as April 20th for the Kamschatka River, May 10th for the Bolchaia-reka, and June for the rivers in Avatcha Bay. According to Afanasi, it comes up the Kamschatka River "early in May," and gets out of season in July. It certainly appears, as far as we could learn from the natives, to wait for some days at the mouths of the rivers before ascending them, which it does in shoals so large that, as Pallas tells us,[1] a little wave of water is driven up in front of them.

We did not meet with the Tchervitchi until we got to the Kamschatka River in early September. The inhabitants had then long since ceased catching them, and very few remained in the river. The balagans and drying sheds were, however, full of them, and many seemed not to have been in quite clean condition at the time of catching. As a kelt, the fish becomes marked with red on the sides, producing a streaked appearance, and the rostrum becomes hooked, especially in the male, though apparently not nearly to the same extent as in the Garbusa and other species. From the time of entering the river the Tchervitchi is said by Pallas never to feed. We made no inquiries of the people as to this point, but they told us that a certain, though very small proportion of this species do not die, but manage eventually to regain the sea. The flesh is of a rather pale red in colour, and is esteemed by the natives above that of any other fish.

2. *Oncorhynchus lycaodon* (Pall.)—This salmon is known to

[1] "Zoographia Rosso-Asiatica," vol. iii. p. 368.

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136 226 825 Kamschatkans[1] as the Krasnaya riba or red fish, but the name is invariably shortened to Krasna. In shape and general appearance it resembles our own salmon. On its first appearance in the rivers it is silvery, the belly white, the back dark with a bluish shade and almost without spots. In length it reaches three feet or more, and large examples would, I should think, scale over thirty pounds. It is found in the Okhotsk and Kamschatkan seas, and extends across to the American coast.[2] In the peninsula it seems to frequent large and small rivers alike, ascending the streams about the end of May or beginning of June, later than the Tchervitchi, but before

KELT OF HAIKO. (*Oncorhynchus lagocephalus.*)

the Haiko and Garbusa. Towards the end of August the Krasna is completely out of condition. It becomes a bright red all over like a gold fish, and both jaws get prolonged and hooked, while at the same time the teeth are wonderfully enlarged. None of the fish ever reach the sea after spawning—at least so we were informed by the natives;—and as this species is one of the most plentiful of all the Kamschatkan salmon, their bodies strew the banks in nearly as great numbers as the Garbusa.

3. *Oncorhynchus lagocephalus* (Pall.)—The trivial name of this fish is given by Steller[3] as Kaiko, but we found it invariably known as the Haiko. It is not unlike the preceding species (*O. lycaodon*),

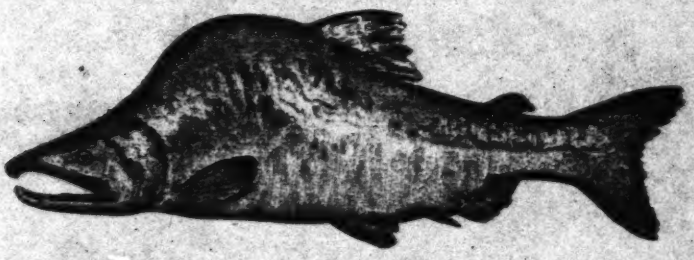
[1] I have here and elsewhere used this term comprehensively as "an inhabitant of Kamschatka." It should not be confounded with Kamschatdale—the name applied to one of the original races inhabiting the peninsula

[2] Steller, "Beschreibung von dem Lande Kamtschatka."

[3] *Op. cit.* p. 157.

22: Guillemard T-2 (1882) 1886 Kamchadal

136 226 825 the back being dark greenish, the sides silvery, and the belly white, but it differs in the greater bluntness of the rostrum and the pale colour of the flesh. It appears, as a rule, to run smaller than the Krasna: its area of distribution is said to be similar. It arrives at the mouth of the Kamschatkan rivers some little time after the Krasna and Tchervitchi, but its advent coincides more or less with the Garbusa or Hump-backed Salmon. About mid-July[1] this species ascends the streams, and is caught in great numbers. Later, the kelts show much the same changes as those of the Krasna, the jaws becoming much hooked; but they never acquire the deep and



KELT OF GARBUSA. (*Oncorhynchus proteus.*)

generally-diffused red of the latter species, that colour being usually confined to small patches on the belly and under surface. A species of bread is said by Kittlitz and others to be made of the Haiko, but we did not see it.

4. *Oncorhynchus proteus* (Pall.) is known to the inhabitants of the country as the Garbusa or Hump-back. On arrival from the sea this fish is said to be without any trace of the extraordinary development of the back from which it takes its name. It is without spots, except upon the tail—which is deeply forked—and is very silvery. It is said to frequent the rivers of the Okhotsk Sea and those of some of the Aleutian Islands, as well as Kamschatka. Roughly speaking, its length is from eighteen to twenty-four inches,

[1] I have also got "mid-June" in my notes, but I think the date given above is probably the correct one.

22: Guillemard T-2 (1882) 1886 Kamchadal

136 226 825 and its weight seldom above fifteen pounds. As a rule it is considerably less.

The Garbusa swims up the rivers in company with the Haiko, and is the most abundant of all the Salmonidæ in Kamschatka. According to Pallas, the hump begins to appear even before the fish has spawned, and is generally supposed by the natives to result from the efforts made in ascending the stream! Its enormous development in the kelts can best be realised by reference to the annexed illustration. Both jaws become hooked at the same time, more so, perhaps, than in any other species, and in consequence, in an old kipper the mouth does not nearly close. Until the death of the fish the gibbosity increases, and the colour of the body-surface becomes more and more livid and brown, the sides and under part being irregularly blotched with blood-red. The vast majority of this species die in the month of August, and though some few live till the middle of September, the natives told us that none return to the sea. The flavour of the flesh is said to be very good when the fish first come up the river, but the Garbusa is looked upon almost as the dogs' private property, and is not much eaten by the natives. In the balagans and drying sheds it invariably occupies the lowest tier of all. The female fish is described by Pallas as much smaller than the male, and very much less numerous; the hump does not become so largely developed and the mandibular hooks are absent or slight. We did not, however, meet with many individuals agreeing with this description.

5. *Oncorhynchus sanguinolentus* (Pall.) is the Kisutchi of the Kamschatkans. The clean fish is silvery, and devoid of red colouration, despite its specific name. The dark greenish-brown back is marked with rather large black spots, and the snout is blunt, becoming afterwards developed in a most peculiar manner. Pallas says that the largest measure three feet and weigh from ten to twelve pounds,[1] but it is evident that a fish of this length would weigh considerably more. Most of those that we saw towards the

[1] "Zoographia Rosso-Asiatica," vol. iii. p. 379.

22: Guillemard T-2 (1882) 1886 Kamchadal

136 226 825 lower part of the Kamschatka averaged, I should think, about twelve or fifteen pounds; the extreme weights, at a rough guess, being eight and twenty-five pounds.

The Kisutchi is the last of all the salmon to ascend the rivers. It arrives about the 10th or 12th of August, and in consequence is in good condition when most of the other species are uneatable. In the middle of September we found the majority of them clean fish, and it is not till the following month that they usually acquire the blood-stained tinge of the under surface, and the extraordinary snout to which I have just alluded. The latter presents a smoothly rounded protrusion about as large as a sixpence, over-hanging the lower jaw, and giving the fish a very comical expression. We learnt from our two hunters that the Kisutchi were caught until November, and Krasheninikov tells us[1] that they are found "during the whole winter in those springs that run into the Kamschatka from the south," which is possibly due to the fact that the water of some of these streams is warm. It appears to be a generally-distributed species, occurring in all the rivers of the peninsula. The flesh is very pale, almost white.

114 136 226 825 6. *Salmo callaris* (Pall.) is the Goletz or Gultsi of the natives. Krasheninikov says[2] that "the largest fish of this species, which lives sometimes five or six years, comes from the sea into the River Kamschatka, out of which it goes into the rivers that run into it, and by them to the lakes, where it grows almost as big as the *Chavitsi* (Tchervitchi), though it seldom weighs more than twenty pounds. They are found likewise very large in the Bistroy River; there their length is commonly twenty-eight inches, and breadth ten; they are of a dark colour,[3] have large teeth, and the lower jaw is crooked with a knob: it seems indeed of a different species. Those of three years old, which have been one year out of the sea, have a long head, are of a silver colour, with small scales, and

[1] "The History of Kamschatka," p. 148.

[2] *Op. cit.* p. 149.

[3] Steller also says, "auf dem Bauch und Flossen Zinnober-roth."

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small red spots; and such as have been two years out of the sea are round and longish, with small heads; and their flesh, which is reddish white, is hard and well tasted. With regard to their size, the first year they are long and small; the second they grow more in breadth than in length; the third the head grows considerably; and the fourth, fifth, and sixth years their breadth and thickness increases greatly: in the fourth year also the lower part to the snout becomes hooked."

Pallas adds that "these fish enter the rivers from the Eastern ocean in great numbers . . . in order to hybernate, being still without spots. They are said to remain torpid during the winter in the

GULPEI (*Salmo callarias.*)

depths of rivers, in shoals of thousands, until at the return of spring they seek the sea again, from about the 10th to the 20th of May. They surmount cataracts of whatever height by leaping, and in the same manner escape from nets one fathom deep. They force their way into the Kuril Lake near the River Kamschatka,[1] notwithstanding a very high cataract, and hybernate in it in large numbers. Many remain for a long time in the rivers and lakes, but the greater number return in spring to the sea. When they come up from the sea they are without the red tint and spots, and shine with a silvery lustre; during the ascent they become gradually spotted with red, while they acquire a more or less red tint beneath the belly and on the fins, according to the comparative rapidity of the river currents."

Both the above accounts are very difficult to reconcile with that

[1] It is difficult to understand what lake is here meant. The Kuril Lake is at least 170 miles distant from the nearest point of the Kamschatka River.

22: Guillemard T-2 (1882) 1886 Kamchadal

114 given us by the natives of this fish. In the first place the Gultsi,
136 as pointed out to us, was a long fish with somewhat rounded sides;
226 the under surface of a most beautiful salmon-colour, the body
825 marked with pink spots, and the back and upper surface dark greenish. The fish were in perfect condition, the coloration being evidently normal, and not due in any way to disease. To a piscatorial, though un-ichthyological eye they were Charr; a fish with which I was quite familiar in Lapland lakes and rivers,[1] but they differed in having the curious, upturned lower jaw to which I have already alluded.[2] The fish that Steller mentions, with their great breadth (depth) of ten inches, cannot well be of this species; and their migratory habits, and the fact that when they come from the sea they are "without the red tint and spots," is, I believe, opposed to what is as yet known of the life history of the Charrs. The natives distinctly told us that the Gultsi remains in the rivers throughout the year.

Two other species of salmon are mentioned by Steller as occurring in Kamschatka:—the Kundsha (*S. leucomænis*) and Mykysha (*S. purpuratus*), but we did not meet with either of them.

133 Late in the afternoon we arrived at some open grassy pools, the
136 head of a small affluent of the Kamschatka River. Mallard and teal were abundant, and having refilled our larder, we turned our attention to the numerous salmon that were splashing about in the shallow water. Whether owing to the fact that the stream was slightly warm or not I cannot say, but the majority of the fish were in better condition here than we had hitherto generally found them, and were in consequence less easy to gaff. After a few minutes' waiting we were, however, able to obtain our supper in the shape of two or three fine Kisutchi of from ten to fifteen pounds weight.
000 Salmon is never eaten to such perfection as in camp-life, where the interval between its death and digestion is reduced to a minimum;

[1] In some of the lakes in Lapland the Charr grows to a very large size. I have seen one which scaled over fourteen pounds.

[2] *Vid. ant.* p. 99.

24: Lansdell-639 [3] M-2 (1879) 1882 Kamchadal
116, 181, 533, 535, 825

" The Kamchatdales have not the heroic character of their neighbours the Koriaks. Their plaintive songs do not celebrate battles, but love, sledge travels, fishing, and hunting. In their dances they mimic admirably the movements of animals, bounding like the deer, running like the fox, and even entering the water to swim like the seal."

27: Sauer--299 T-2 (1789-93) 1802 Kamchadal
251, 825

"The oil extracted from herrings is very pellucid and sweet; it preserves birds' eggs all the year quite fresh and good, as does also the oil of seals, whales, &c."

27: Sauer--302 [2] T-2 (1789-93) 1802 Kamchadal
116, 133, 136, 777, 825

"Here are no lakes of any extent: the names of the principal ones are, Osernoi, about 40 miles from Cape Lopatka; Kronotskoi, 20 miles south-east of Tolbatshinski volcano; and another of less extent, situated about 40 miles north of Neizshni Kamtshatka, called Nerpitshi: the natives say that they are replete with fish; and tradition relates, that the fish of these lakes had two heads, or that they possessed legs; and, being sacred to some deity or demon, those who presumed to ensnare them were punished with misfortunes: some of the natives, however, seem to doubt the truth of this, while others still firmly believe it."

28: Sarytschew--66 T-1 (1789-90) 1806 Kamchadal
116, 535, 825

"I did not see the Kamtschadale dance here [CMC: at Bolsheretsk], but among the Kosaks of Petropaulowsk, who give it the preference, it is so indecent, that every modest woman would blush to be a spectator, much more a partner in it. A woman makes the commencement by stepping forward into the middle of the Isba, and holding a cloth spread out before her in a transverse direction. She shifts her feet slowly, making a variety of motions with her hands, head, and body. Her head sinks alternately on one shoulder or the other, on her back or on her breast. She then at length advances to a man, and renews this gesticulation close before him, which implies as much as soliciting his hand to the dance. He accordingly takes hold of the cloth in the same manner, and rising from his seat, they both commence the distortion of all their limbs together. The woman turns every now and then away from the man, but returns to him instantly again, sinking gradually upon her knees, and then bending herself backward with a similar gesticulation; the man also in the mean time falling down and reclining himselv over her, the dance is concluded with the most obscene gestures. While it lasts, both dancers and spectators all sing to one song, consisting of the words an-kelle, an-kaget, incessantly repeated: but they have a variety of such monotonous ditties, adapted to the same species of dancing. In some of their dances, they imitate birds and beasts; the man for example representing the male, and the woman the female-bear; and sometimes there is a company of these imitators, who amuse themselves together, either in running like partridges, gabbling like geese, or in aping some other animal."

28: Sarytschew--66-67 T-1 (1789-90) 1806 Kamchadal
116, 222, 262, 609, 825

"On our journey we experienced the most friendly treatment from the Kamtschadales, who not only entertained us with the utmost cordiality, but made us liberal presents of partridges, fresh fish, frozen keta, jukol, berries, and roots, [67] which are collected in great quantities from the mouse-holes, and form one of their principal aliments.

In autumn, they go into the fields in search of these roots, and as soon as they find hollow ground, by stamping, they dig down, and lay open the store-rooms of these animals. They do not, however, empty them entirely, but leave the mice a third at least of their provision, probably with a view of not driving away such useful creatures. They terrify each other, indeed, with the saying, that the mouse which is deprived of all its sustenance, will hang itself in despair on the next tree; a tale which may perhaps have originated in the circumstance of a mouse having been entangled by accident in the branches of a tree, and having hung there till it died."

29:Cochrane T-2 (1821-22) 1824 Kamchadal

251 I never could relish their flesh. The Kamtchatdales
262 also derive great benefit from the whales which are
825 numerous, and which being encountered by the Kasatka, for the sake of the tongue, as is supposed, are killed and cast ashore. Upon the whole, therefore, there are no people at whose disposition Providence has placed more of the necessaries of life, than the inhabitants of Kamtchatka. For their direct subsistence, they have fish, flesh, and fowl, wild berries and roots in great variety and abundance, sufficient doubtless to maintain a large population; while for clothing, they have immense quantities of furs of the warmest and most durable kind;
137 and for firing and building, wood is every where to be had in the utmost profusion.

181 Such being the case, it becomes a matter of spe-
433 culation, what could induce the aborigines to live in that filthy and famished condition which formerly characterized them. Was it from an over abundant population, or the want of means to possess themselves of food—such as guns, nets and traps? That they had means to entrap game and fish for a certain proportion of the inhabitants there can be no doubt, but whether sufficient for a large population is very questionable.

157 Of the people in general, I can only say they are
177 as amiable and honest as ever. They are now esta-
221 blished in villages all built in the old Russian style, which are clean and comfortable. During the summer or fishing season, they leave their winter resi-